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10/731,259	12/05/2003	Rumi Sheryar Gonda	RGQ-005	4710
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LAHIVE & COCKFIELD, LLP. 28 STATE STREET BOSTON, MA 02109			DAVIS, CYNTHIA L	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/731,259

Applicant(s)

GONDA, RUMI SHERYAR

Examiner

Cynthia L Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/9/2004</u> .  | 6) <input type="checkbox"/> Other: ____                                     |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 41, 42, and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by Yip.

Regarding claim 41, a method of providing APS functionality on an Ethernet protocol network, comprising the steps of: configuring a Bridge Selector in bridge mode; and bridging transmit traffic to working and protect channels is disclosed in Yip, column 2, lines 12-26 (disclosing EAPS bridging functionality).

Regarding claim 42, a method of providing APS functionality on an Ethernet protocol network, comprising the steps of: configuring a Bridge Selector in selector mode; selecting receive traffic from at least one of working and protect channels; and switching from an active channel to one of a standby channel and a specified channel when requested is disclosed in Yip, column 2, lines 12-26 (disclosing EAPS switching functionality, switching being an alternate term for selector, see the instant specification, page 8, line 26).

Regarding claim 44, a method of providing APS functionality on an Ethernet protocol network comprising the steps of: one of bridging and selecting between a MAC hardware device and a plurality of PHY hardware devices; and switching over from an active channel to one of a standby channel and a specified channel when requested is

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disclosed in Yip, column 2, lines 12-26 (disclosing EAPS and both bridging and switching functionality, switching being an alternate term for selector, see the instant specification, page 8, line 26).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9, 15-19, 23, 26-28, 30, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yip in view of Laber.

Regarding claim 1, an Ethernet APS Bridge Selector for implementing APS is disclosed in Yip, column 2, lines 12-26 (disclosing EAPS and both bridging and switching functionality, switching being an alternate term for selector, see the instant specification, page 8, line 26). An Ethernet APS Bridge Selector Sublayer for managing the Ethernet APS Bridge Selector wherein the Ethernet APS Bridge Selector interconnects Media Access Control (MAC) hardware and a plurality of Physical Layer (PHY) hardware devices is missing from Yip. However, Laber discloses in column 1, lines 61-63, a bridge connecting MAC and PHY layers. It would have been obvious to one skilled in the art at the time of the invention to have the Ethernet APS Bridge selector interconnect the MAC and PHY hardware. The motivation would be to allow the physical devices to communicate with the network via the MAC.

Regarding claim 2, the MAC interfaces with the Ethernet APS Bridge Selector is disclosed in Yip, column 4, line 21.

Regarding claim 3, the Ethernet APS Bridge Selector interfaces with the plurality of PHY hardware devices is missing from Yip. However, Laber discloses in column 1, lines 61-63, a bridge connecting to the PHY layer. It would have been obvious to one skilled in the art at the time of the invention to have the Ethernet APS Bridge selector connect to the PHY hardware. The motivation would be to allow the physical devices to communicate with the network via the MAC.

Regarding claim 4, the Ethernet APS Bridge Selector enables Standard SDH/SONET APS functionality in an Ethernet Architecture is disclosed in Yip, column 2, lines 5-7.

Regarding claim 5, the Ethernet APS Bridge Selector comprises one of a bridge and a selector is disclosed in Yip, column 2, lines 12-26 (disclosing EAPS and both bridging and switching functionality, switching being an alternate term for selector, see the instant specification, page 8, line 26).

Regarding claim 6, the Ethernet APS Bridge Selector comprises at least one of a bridge and a selector is disclosed in Yip, column 2, lines 12-26 (disclosing EAPS and both bridging and switching functionality, switching being an alternate term for selector, see the instant specification, page 8, line 26).

Regarding claim 7, the Ethernet APS Bridge Selector executes bridging operations is disclosed in Yip, column 3, lines 12-19 (disclosing bridging traffic to the protection channel).

Regarding claim 8, the Ethernet APS Bridge Selector executes selector operations is disclosed in Yip, column 2, lines 12-26 (disclosing switching functionality, switching being an alternate term for selector, see the instant specification, page 8, line 26).

Regarding claim 9, the Ethernet APS Bridge Selector executes switching operations is disclosed in Yip, column 2, lines 12-26 (disclosing switching functionality).

Regarding claim 15, the Ethernet APS Bridge Selector interfaces the PHY using a MAC to PHY interconnect interface is missing from Yip. However, Laber discloses in column 1, lines 61-63, a bridge interfacing MAC and PHY layers. It would have been obvious to one skilled in the art at the time of the invention to use a MAC to PHY interconnect interface in the Ethernet APS Bridge selector to interconnect the MAC and PHY hardware. The motivation would be to allow the physical devices to communicate with the network via the MAC.

Regarding claim 16, the Ethernet APS Bridge Selector bridges between the plurality of PHY hardware devices is disclosed in Yip, column 3, lines 12-19 (disclosing bridging traffic to the protection channel).

Regarding claim 17, the Ethernet APS Bridge Selector selects between the plurality of PHY hardware devices is disclosed in Yip, column 2, lines 12-26 (disclosing switching functionality, switching being an alternate term for selector, see the instant specification, page 8, line 26).

Regarding claim 18, the Ethernet APS Bridge Selector switches between the plurality of PHY hardware devices is disclosed in Yip, column 2, lines 12-26 (disclosing switching functionality).

Regarding claim 19, the Ethernet APS Bridge Selector provides switchover within 50 ms for recovery and protection functionality is missing from Yip. However, the instant specification discloses on page 3, line 10, that 50ms is the standard switchover time for SDH/SONET. It would have been obvious to one skilled in the art at the time of the invention to have the bridge selector provide switchover within 50ms. The motivation would be to have the instant invention be as fast as SDH/SONET APS.

Regarding claim 23, the Ethernet APS Bridge Selector is one of unidirectional and bidirectional is missing from Yip. However, Laber discloses in column 1, lines 64-65, bidirectional bridge. It would have been obvious to one skilled in the art at the time of the invention to use a bidirectional bridge in the invention of Yip. The motivation would be to allow simultaneous communication (Laber, column 1, lines 63-64).

Regarding claim 26, the Ethernet APS Bridge Selector is controlled by a MAC Client in the form of at least one of APS and OAMP is disclosed in Yip, column 2, lines 5-6 (disclosing APS) and column 4, line 21 (disclosing MAC).

Regarding claim 27, the Ethernet APS Bridge Selector is controlled by software in the form of at least one of APS Controller software and OAMP software is disclosed in Yip, column 8, lines 20-25 (disclosing APS software).

Regarding claim 28, hardware implementing a plurality of Ethernet APS Bridge Selector devices is disclosed in Yip, 8, lines 51-54 (disclosing the invention being implemented in a multiple node/switch network, which would require multiple devices).

Regarding claim 30, providing a Bridge Selector APS sublayer and configuring the Bridge Selector APS sublayer in a bridge mode is disclosed in Yip, column 2, lines 12-26 (disclosing EAPS and bridging functionality). Bridging a MAC hardware device to a plurality of PHY hardware devices, wherein the Bridge Selector APS sublayer interfaces to MAC transmit signals and bridges signals to a plurality of PHY transmit signals is missing from Yip. However, Laber discloses in column 1, lines 61-63, a bridge connecting MAC and PHY layers. It would have been obvious to one skilled in the art at the time of the invention to have the Ethernet APS Bridge selector interconnect the MAC and PHY hardware. The motivation would be to allow the physical devices to communicate with the network via the MAC.

Regarding claim 35, configuring a Bridge Selector APS Sublayer in selector mode and switching over from an active channel to one of a standby channel and a specified channel when requested is disclosed in Yip, column 2, lines 12-26 (disclosing EAPS and switching functionality, switching being an alternate term for selector, see the instant specification, page 8, line 26). The Bridge Selector APS Sublayer selecting from the plurality of PHY hardware devices for connection to the MAC hardware device and the Bridge Selector APS Sublayer interfacing to a plurality of PHY receive signals and selecting signals to MAC receive signals is missing from Yip. However, Laber discloses in column 1, lines 61-63, a bridge connecting MAC and PHY layers. It would have been



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obvious to one skilled in the art at the time of the invention to have the Ethernet APS Bridge selector interconnect the MAC and PHY hardware. The motivation would be to allow the physical devices to communicate with the network via the MAC.

3. Claims 10, 11, 34, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yip in view of Laber in further view of Lu.

Regarding claim 10, the Ethernet APS Bridge Selector enables drop and continue functionality is missing from Yip. However, Lu discloses in column 9, line 46, that drop-continue is a type of cross connection used in APS. It would have been obvious to one skilled in the art at the time of the invention to implement drop and continue in the system of Yip. The motivation would be to implement full APS functionality.

Regarding claim 11, the Ethernet APS Bridge Selector enables pass through functionality is missing from Yip. However, Lu discloses in column 9, line 47, that passing through is a type of cross connection used in APS. It would have been obvious to one skilled in the art at the time of the invention to implement pass through in the system of Yip. The motivation would be to implement full APS functionality.

Regarding claim 34, the Bridge Selector APS sublayer comprises a bridge configured to be in pass through mode wherein an input interface passes through to an output interface is missing from Yip. However, Lu discloses in column 9, line 47, that passing through is a type of cross connection used in APS. It would have been obvious to one skilled in the art at the time of the invention to implement pass through in the system of Yip. The motivation would be to implement full APS functionality.

Regarding claim 39, the Bridge Selector APS Sublayer comprises a bridge configured to be in pass through mode, wherein an input interface passes through to output interfaces is missing from Yip. However, Lu discloses in column 9, line 47, that passing through is a type of cross connection used in APS. It would have been obvious to one skilled in the art at the time of the invention to implement pass through in the system of Yip. The motivation would be to implement full APS functionality.

4. Claims 12, 14, 29, 33, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yip in view of Laber in further view of Sefidvash.

Regarding claim 12, the Ethernet APS Bridge Selector interfaces with a MAC using RS interface primitives is missing from Yip. However, Sefidvash discloses in paragraph 31 a MAC that uses an RS interface. It would have been obvious to one skilled in the art at the time of the invention to use an RS interface. The motivation would be to reconcile the sublayers.

Regarding claim 14, the Bridge Selector Sublayer interface comprises an Attachment Unit Interface (AUI) in the form of XAUI is missing from Yip. However, Sefidvash discloses a XAUI interface between a MAC and a PHY in paragraph 30. It would have been obvious to one skilled in the art at the time of the invention to use a XAUI interface in the Bridge Selector. The motivation would be to use a fast type of interface (Sefidvash, paragraph 17).

Regarding claim 29, the Ethernet APS Bridge Selector devices are implemented in at least one of a MAC, XGXS, XAUI, and PHY hardware device is missing from Yip. However, Sefidvash discloses a XAUI interface between a MAC and a PHY in

paragraph 30. It would have been obvious to one skilled in the art at the time of the invention to use a XAUI interface hardware device for the Bridge Selector. The motivation would be to use a fast type of interface (Sefidvash, paragraph 17).

Regarding claim 33, the Bridge Selector APS Sublayer interface comprises an AUI in the form of XAUI is missing from Yip. However, Sefidvash discloses a XAUI interface between a MAC and a PHY in paragraph 30. It would have been obvious to one skilled in the art at the time of the invention to use a XAUI interface in the Bridge Selector. The motivation would be to use a fast type of interface (Sefidvash, paragraph 17).

Regarding claim 38, the Bridge Selector APS Sublayer interface comprises an AUI in the form of XAUI is missing from Yip. However, Sefidvash discloses a XAUI interface between a MAC and a PHY in paragraph 30. It would have been obvious to one skilled in the art at the time of the invention to use a XAUI interface in the Bridge Selector. The motivation would be to use a fast type of interface (Sefidvash, paragraph 17).

5. Claims 13, 21, 32, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yip in view of Laber in further view of Shi.

Regarding claim 13, the Bridge Selector Sublayer interface comprises a PHY interface in the form of one of XGMII, GMII, and MII is missing from Yip. However, Shi discloses in column 1, lines 26-27, that XGMII is a standard interface between MAC and PHY. It would have been obvious to one skilled in the art at the time of the invention to use XGMII in the invention of Yip. The motivation would be to use a standard interface.

Regarding claim 21, the Ethernet APS Bridge Selector provides signals in the form of one of XGMII and XAU1, to control APS functionality is missing from Yip. However, Shi discloses in column 1, lines 26-27, that XGMII is a standard interface between MAC and PHY. It would have been obvious to one skilled in the art at the time of the invention to use XGMII in the invention of Yip. The motivation would be to use a standard interface.

Regarding claim 32, the Bridge Selector APS Sublayer interface comprises an MII interface in the form of at least one of XGMII, GMII, and MII is missing from Yip. However, Shi discloses in column 1, lines 26-27, that XGMII is a standard interface between MAC and PHY. It would have been obvious to one skilled in the art at the time of the invention to use XGMII in the invention of Yip. The motivation would be to use a standard interface.

Regarding claim 37, the Bridge Selector APS Sublayer interface comprises an MII interface in the form of at least one of XGMII, GMII, and MII is missing from Yip. However, Shi discloses in column 1, lines 26-27, that XGMII is a standard interface between MAC and PHY. It would have been obvious to one skilled in the art at the time of the invention to use XGMII in the invention of Yip. The motivation would be to use a standard interface.

6. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yip in view of Laber in further view of Abbott.

Regarding claim 22, the Ethernet APS Bridge Selector provides control/register interfaces to control APS functionality is missing from Yip. However, a control register

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interface is disclosed in Abbott, column 51, line 4. It would have been obvious to one skilled in the art at the time of the invention to use a control register interface. The motivation would be to control a serial bus for communication among various hardware devices (Abbott, column 51, lines 3-5).

Claims 20, 31, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yip in view of Laber in further view of Lurndal.

Regarding claim 20, the Ethernet APS Bridge Selector provides a PLS interface to control APS functionality is missing from Yip. However, Lurndal discloses in column 19, lines 54-55, a PLS interface. It would have been obvious to one skilled in the art at the time of the invention to include a PLS interface in the invention of Yip. The motivation would be to maintain port localization information (Lurndal, column 19, lines 56-57).

Regarding claim 31, the Bridge Selector APS Sublayer interface comprises an RS interface in the form of PLS is missing from Yip. However, Lurndal discloses in column 19, lines 54-55, a PLS interface. It would have been obvious to one skilled in the art at the time of the invention to include a PLS interface in the invention of Yip. The motivation would be to maintain port localization information (Lurndal, column 19, lines 56-57).

Regarding claim 36, the Bridge Selector APS Sublayer interface comprises an RS interface in the form of PLS is missing from Yip. However, Lurndal discloses in column 19, lines 54-55, a PLS interface. It would have been obvious to one skilled in the art at the time of the invention to include a PLS interface in the invention of Yip. The

motivation would be to maintain port localization information (Lurndal, column 19, lines 56-57).

7. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yip in view of Laber in further view of Taketomi. The Ethernet APS Bridge Selector is utilized in at least one of nested and non-nested combinations is missing from Yip. However, Taketomi discloses in column 10, lines 59-60, a nested switching system. It would have been obvious to one skilled in the art to utilize the invention of Yip in a nested combination. The motivation would be to switch lines in every section of the system (Taketomi, column 10, lines 57-58).

8. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yip in view of Laber in further view of Burnett. A plurality of MAC sublayers that control the Ethernet APS Bridge Selector is missing from Yip. However, Burnett discloses in column 7 a plurality of MAC sublayers in a bridged network, for the purpose of interfacing with a wide variety of media. It would have been obvious to one skilled in the art at the time of the invention to have multiple MAC sublayers in the invention of Yip. The motivation would be to interface with a wide variety of media.

9. Claims 40, 43, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yip in view of the admitted prior art.

Regarding claim 40, the step of switching over executes within 50 ms to provide recovery functionality on an Ethernet protocol network is missing from Yip. However, the instant specification discloses on page 3, line 10, that 50ms is the standard switchover time for SDH/SONET. It would have been obvious to one skilled in the art at

the time of the invention to have the bridge selector provide switchover within 50ms.

The motivation would be to have the instant invention be as fast as SDH/SONET APS.

Regarding claim 43, the method executes within 50 ms to provide recovery functionality is missing from Yip. However, the instant specification discloses on page 3, line 10, that 50ms is the standard switchover time for SDH/SONET. It would have been obvious to one skilled in the art at the time of the invention to have the bridge selector provide switchover within 50ms. The motivation would be to have the instant invention be as fast as SDH/SONET APS.

Regarding claim 46, the method executes within 50 ms to provide recovery functionality is missing from Yip. However, the instant specification discloses on page 3, line 10, that 50ms is the standard switchover time for SDH/SONET. It would have been obvious to one skilled in the art at the time of the invention to have the bridge selector provide switchover within 50ms. The motivation would be to have the instant invention be as fast as SDH/SONET APS.

10. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yip in view of Abbot. The method enables standard SDH/SONET APS functionality for linear, ring, and mesh topologies for Ethernet protocol networks is disclosed in Yip, column 1, lines 40 (disclosing linear, i.e., a bus network), column 2, line 7, and column 7, lines 42-48 (disclosing mesh; the invention is designed to prevent loops in mesh networks as well). Using signals is disclosed in column 8, line 39. Using control/register interfaces is missing from Yip. However, a control register interface is disclosed in Abbott, column 51, line 4. It would have been obvious to one skilled in the art at the time of the

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invention to use a control register interface. The motivation would be to control a serial bus for communication among various hardware devices (Abbott, column 51, lines 3-5).

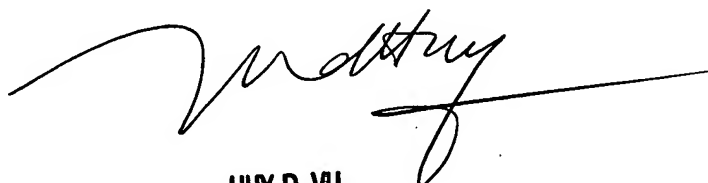
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia L Davis whose telephone number is (571) 272-3117. The examiner can normally be reached on 8:30 to 6, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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